

# Cypress Semiconductor Qualification Report

QTP# 98373 VERSION 1.0  
February, 1999

48 Ld Molded Array Mini BGA  
ASE, Taiwan Assembly

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Cypress Semiconductor – Quality & Reliability Department  
(408) 432-7068

PLASTIC PACKAGE/ASSEMBLY DESCRIPTION			
Package Outline, Type, or Name:		48-Lead Molded Array Mini BGA (7x7mm) Die size less than or equal to .152" x .1865"	
Mold Compound Name/Manufacturer:		Plaskon SMT-B-1	
Lead Frame material:	BT Resin		
Lead Finish, composition:	Solder Plated, 63%Sn, 37%Pb		
Die Attach Area Plating:	Copper/Solder mask		
Die Attach Method:	Epoxy	Die Attach Material:	Ablestik 8355F
Wire Bond Method:	Thermosonic	Wire Material/Size:	Gold / 1.0 mil
JESD22-A112 Moisture Sensitivity Level		Level 3	
Assembly Line ID and Process ID:		ASE, Taiwan (TAIWAN-G)	

**Note:** Please contact a Cypress Representative for other packages availability.

RELIABILITY TESTS PERFORMED

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	MIL-STD-883C, Method 1010, Condition B, -40°C to 125°C Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs., 30°C/60%RH	P
High Accelerated Saturation Test	130°C/3.63V Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs., 85°C/85%RH	P
High Temperature Storage	165°C, no bias	P
Internal Visual	Cypress Spec 25-00017	P
External Visual	Cypress Spec 12-00102/12-00103	P
Physical Dimension	Cypress Spec. 25-00031	P
Die Shear	Cypress Spec 24-00004	P
Ball Shear	Cypress Spec 24-00018	P
Bond Pull	Cypress Spec 24-00002	P
Thermal Shock	Cypress Spec 25-00014	P
X-Ray	Cypress Spec 12-000149	P
Acoustic Microscopy Test (C-SAM)	Cypress Spec 25-000104	P

RELIABILITY TEST DATA

QTP#: 98373

DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 3.63V), PRECOND. 168 HRS 85C/85%RH</b>							
CY62127VLL-BA	TAIWN-G	4819994	619807063	128	48	0	See note 1
<b>STRESS: HIGH TEMPERATURE STORAGE (165C, NO BIAS)</b>							
CY62127VLL-BA	TAIWN-G	4819994	619807063	336	47	0	
CY62127VLL-BA	TAIWN-G	4819994	619807063	1000	47	0	
<b>STRESS: TC JEDEC22 COND. B, -40 TO 125C, PRECOND. 192 HRS 30C/60%RH</b>							
CY62127VLL-BA	TAIWN-G	4819994	619807063	300	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807063	1000	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807063	1500	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807065	300	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807065	1000	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807065	1500	48	0	
CY62127VLL-BA	TAIWN-G	4817785	619808617	300	48	0	
CY62127VLL-BA	TAIWN-G	4817785	619808617	1000	48	0	See note 2
CY62127VLL-BA	TAIWN-G	4817785	619808617	1500	47	0	
<b>STRESS: THERMAL SHOCK, CONDITION B</b>							
CY62127VLL-BA	TAIWN-G	4819994	619807063	100	48	0	
CY62127VLL-BA	TAIWN-G	4819994	619807063	200	48	0	

Note 1: Four rejects due to broken solder balls. Failure analysis result showed the failure was due to poor Hast socket design. Corrective action was issued to the product line to improve design and implement permanent fix, CAR #C990501Q.

Note 2: One reject due to device related failure.